Abstract

An aim of the invention is to provide a stable fuel cell having a high mechanical strength and a high reliability.

Another aim of the invention is to provide a fuel cell which can be easily produced.

The fuel cell comprises a porous electrically-conductive material (13) as a substrate, a protonically-conductive membrane (16) formed on the porous electrically-conductive material (13) made of a mesoporous thin film comprising as a main component a crosslinked structure having a metal-oxygen skeleton having an acid group connected to at least a part thereof and having pores periodically aligned therein and a porous electrically-conductive material layer (17) formed on the protonically-conductive membrane.